Remarks

In section 5 of the office action the Examiner rejects claim 1 under 35 USC §103(a) as being unpatentable over Chandross (US Patent No. 6,002,823). Reconsideration is requested.

Chandross describes "thermo optically controlled optical couplers" (Chandross, abstract) which use a material having a refractive index which is highly dependent on temperature to provide a cladding for the waveguides. Chandross does not describe, teach or suggest use of a "strip loaded waveguide" (this application, claim 1).

As described in the previous response filed April 09, 2004, a "strip loaded waveguide" is clearly described in the specification with reference to figures 3a and 3b in the description on page 8 lines 19-33. In a strip loaded waveguide the lateral confinement of the light within the core layer (104, 104') is provided by a layer (106, 106') which is deposited on top of the core layer. This is shown clearly in figures 3a and 3b by the dotted outline of the guided mode (108, 108'). This structure and its mode of optical guiding is completely different from that described in the structure of Chandross and shown in Chandross figure 13 (which is of similar design to that shown in figure 4 of this application). In the waveguides of Chandross (12, 13 in figure 13) the lateral confinement of the light which is guided within those waveguides (12, 13) is provided by the geometry of the waveguide elements themselves.

As identified by the Examiner in the quotation on page 12 of the office action, Chandross does not refer to strip loaded waveguides but instead to waveguides with a strip like configuration which are "typically rectangular or preferably essentially square in cross section". These two terms are not equivalent, because "strip loaded"

refers to how the light is guided within the waveguide and "strip like" refers to the shape of the waveguide (i.e. long and thin).

The Examiner argues that the Chandross structure is essentially analogous to that shown in the applicant's drawings 3 and 5. The applicant respectfully submits that this is incorrect and the differences are highlighted by comparing figure 3b of the present application and figure 13 of Chandross. It can be seen in figure 3b of this application that the core layer 104 does not laterally confine the guided mode by its geometry because it is very broad in its lateral extent. In comparison, the waveguide 12 in figure 13 of Chandross has a core which is essentially square with its vertical sides providing lateral guidance to the light traveling down the waveguide.

As described above, Chandross does not disclose use of "a strip loaded waveguide" which is an essential feature of claim 1. Further arguments are also provided in the previous response filed on April 09, 2004. The applicant, therefore, respectfully submits that the rejection of claim 1 cannot be sustained.

The Examiner also rejects independent claims 8, 14, 16 and 17. The above arguments in relation to claim 1 are also applicable to these independent claims and the applicant respectfully submits that the rejection of these claims cannot also be sustained.

Detailed arguments are not presented in respect of the rejected dependent claims, however the arguments of the Examiner should not be taken to be accepted.

In the office action the Examiner reproduces Chandross, figure 6. It should be noted that the labeling of features 35 in figure 6 of Chandross as "strip waveguides" is in fact misleading. As described in Chandross, column 3 lines 27-30 these features 35 are simply photolithography mask features which are used to define the shape of the waveguides 12 and 13 in preparation for the etching process.

The applicant realizes that this response is being filed following a final rejection. It is submitted that this response ought to be entered and fully considered since no new issues have been raised and each of the concerns of the Examiner have been addressed.

Further and favorable reconsideration is respectfully requested.

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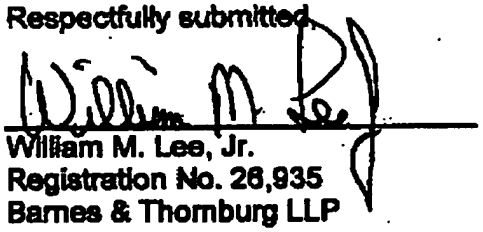
Respectfully submitted,



William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 214-4800
(312) 759-5646 (fax)